

notatus, aliaque media aurantia. Elytra nigra fascia humerali aurantia, secunda fere media, duabus maculis concoloribus fere ad apicem positis. Intra humeralem fasciam et apicem totum discum maculis minutis viridibus aspersum. Corpus infra viride, pectore utrinque aurantio colore imbuto.

The above elegant insect is named after Mr. Palin, an assiduous collector of insects at Sierra Leone.

Sp. 65. *Sternodonta Princeps*. Long. lin. 13; lat. lin. 6. Atroviridis, antennis pallidioribus, thorace 4 lineis transversis albidis notato, elytris disco nigro binis fasciis obliquis variisque maculis albido beryllinis insignitis. Corpus infra nigrum, segmentis abdominis beryllino-viridibus.

Received from Ashantee in 1833.

Sp. 66. *Sternodonta amabilis*. Long. lin. 12; lat. lin. 5. Affinis *Stern. Imperiali*, at major. Viridis, corpore pulvere fulvo aurato, fere omnino tecto. Thorax medio aurantius, antice posticeque viridis. Elytra læte beryllino-viridia, ad basem nigra fascia notata, maculisque variis aurantiis conspicua. Corpus infra læte viride, pedibus concoloribus.

The above insect is one of the most beautiful received from Africa. It was obtained from the country of the Ashantees.

LII.—*Some remarks on the Soft-billed Duck of Latham.*

By GEORGE ROBERT GRAY, Esq.

AMONG the ducks described by Latham in his 'Synopsis' is one that he denominated the Soft-billed Duck. It was first noticed however by Cook and Forster in their Voyages, and to them Dr. Latham was indebted for the information which supplied the material for his description. A representation of this curious and rare species of duck is given by G. Forster among his drawings, tab. 74. Gmelin was the first to give a scientific name, which he did by translating Latham's, as *Anas malacorhynchus*. The specimens which have again brought it into notice have recently been presented to the National Collection by the New Zealand Company; they are two in number, and were brought from New Zealand by Dr. Dieffenbach; it is thus that the writer has had it in his power to examine it and to compare it with the Australian soft-billed duck. He soon discovered that Wagler was in error in considering it as belonging to the same division. From the form of the hind toe, the Australian species is a true duck near the Shovellers; while the present bird is more properly placed with the lobed hind-toed ducks, such as the Pochards, and partaking in some measure of the form of the Goosanders. It should therefore be placed in the subfamily *Fuligulinæ* between *Camptolaimus*

and *Branta*; the former of which is the only one of that sub-family that has the apical margins of the bill soft and somewhat flexible. The Australian soft-billed duck is the type of the genus *Malacorhynchus* as established by Mr. Swainson in 1831. In 1832 Wagler used the same generic name, being unacquainted with the fact that it had been previously employed: he seems to consider the New Zealand bird as the type, but mentioned the Australian one as the second species. This leaves us to conclude that Mr. Swainson's genus *Malacorhynchus* must, by the law of priority, be retained for the Australian *Anas membranacea*, while a new generic name should be proposed for the New Zealand *Anas malacorhynchus*.

Capt. Cook in his 'Voyage' mentions this bird as a "blue-gray duck, or whistling-duck as some called them, from the whistling noise they make;" and Forster in his 'Voyage' states, that "its bill had a remarkable membranaceous substance at the extremity on both sides, probably because the bird is intended to live by sucking the worms, &c. in the mud, when the tide retires from the beach." On the drawing is written (as if called so by the natives) the word *heweego*; where is also represented (and of which he speaks in his 'Voyage') a narrow white band across each wing that is not found in the specimen before me.

HYMENOLAIMUS. Bill as long as the head, equally compressed, elevated at the base, with the culmen for three-fourths of its length straight, and then slightly curved to the tip; the sides from the culmen shelving to the lateral margins, of which the basal half is firm and furnished with lengthened slender laminæ; the apical half of the margin composed of a soft flexible skin that hangs over the lower mandible, widening towards the tip, where it is somewhat truncate and the nail not very prominent; nostrils situated near the middle of the bill and oval. Wings short, slender, with the first, second and third quills equal and longest, and the shoulder armed with a short blunt spur. Tail lengthened and composed of broad feathers with the ends rather rounded. Tarsi nearly as long as the middle toe exclusive of claw, fore-toes strong and fully webbed, and the hind toe moderate and strongly lobed.

H. malacorhynchus (Gm.), n. Brownish blue; the feathers more or less margined with glossy green, especially on the head and back; the breast varied with large spots of light chestnut; the secondaries (some tipped with white) with their outer edges margined narrowly with velvety black. Bill white, with the nail and the soft part black. Legs brown and web black.

Length 20 inches; bill $2\frac{1}{4}$ inches; wings $8\frac{3}{4}$ inches; tail $5\frac{1}{2}$ inches; tarsi $1\frac{3}{4}$ inch.

Anas malacorhynchus, *Gmel. Syst. Nat.* i. 526; *Lath. Ind. Orn.* ii. 862.

Malacorhynchus Forsterorum, *Wagl. Isis*, 1832.

As an appendix, I subjoin the descriptions of five species of birds which are considered to be new to science.

Falco subniger. Deep brown, margins of feathers lighter; abdomen, greater wing-coverts, quills and tail blackish brown; bill and legs plumbeous.

Length 23 inches; bill 1 inch and 1 line; wings $16\frac{1}{4}$ inches; tarsi $2\frac{1}{4}$ inches.

This bird has the form of the peregrine falcon, but is larger in all its proportions; judging from the plumage, it appears to be an immature specimen of a species not hitherto described. Its locality is unknown, but is supposed to be an Australian species.

Falco guttatus. Black, the feathers of the back margined with blue, and the inner webs of the quills and tail-feathers spotted with rufous; throat and a semicollar on the neck white, slightly tinged with rufous; breast and beneath deep rufous, spotted with black. Bill black, cere and legs yellow.

Length $12\frac{1}{2}$ inches; bill $\frac{3}{4}$ of an inch; wings $9\frac{1}{2}$ inches; tail $5\frac{1}{2}$ inches; tarsi $1\frac{1}{2}$ inch.

Approaches mostly to the *Falco frontatus* of Gould in size and colour, but the lower parts are deep rufous and distinctly spotted with black. It is from the Philippine Islands.

Astur cristatus. Glossy brown, top and back of the head, where the feathers form a crest, black; ear-coverts plumbeous; throat white, with a very narrow streak of black down the centre; breast rufous, varying with white; abdomen broadly banded with white and rufous; thigh white, with narrow bands of rufous brown; tail ashy, with four dark brown bands. Bill black and legs yellow.

Length $16\frac{1}{4}$ inches; bill 1 inch; wings $8\frac{1}{4}$ inches; tail $7\frac{1}{4}$ inches; tarsi $2\frac{3}{4}$ inches.

This bird might at first sight be taken for a species of *Baza*, as far as regards the position of its colours, but the festooned bill and lengthened tarsi at once distinguish it from that genus. It is an inhabitant of the Philippine Islands.

Tchitrea rufa. Rufous, with the base of the feathers paler, the inner webs of the quills dusky.

Length $8\frac{1}{2}$ inches; bill 1 inch; wings 3 inches 8 lines; tail $4\frac{3}{4}$ inches; tarsi 9 lines.

This fine species is from the Philippine Islands.

Caccabis Bonhami. Grayish isabella-colour, numerously banded and vermiculated with dusky; lower part of the back and tail-coverts slightly speckled with black; front and line above the eyes black, another line through the eyes white; the throat and sides of the neck pale blue, with some of the feathers of the latter variegated with white; breast plain isabella-colour; feathers of the sides varied with blotches of rufous isabella and white margined with black; abdomen nearly white; tail pale cinnamon, with the ends paler and vermiculated with black. Bill and legs yellow.

Length $8\frac{1}{2}$ inches.

Female paler, entirely banded and vermiculated with dusky; sides and abdomen varied with white, which colour predominates on the throat. It is from the mountains of Persia, and has much the appearance of the *P. Heyii*, Temm., to which it also approaches in size.

LIII.—*Remarks on the species of Desmidium*. By JOHN RALFS, Esq., M.R.C.S., Penzance.

[With a Plate.]

DESMIDIUM, *Ag.*

FILAMENTS fragile, jointed, angular, with the angles of each joint bicrenate, or cylindrical with a circular groove which produces a crenate appearance, finally separating into single joints or frustules.

This natural genus is not well defined either in Agardh's 'Conspetus criticus Diatomacearum' or in any of our British works. Its best distinctive character appears to consist in the crenated appearance of the filaments, which is least evident in *D. mucosum**

The filaments are of a pale green colour, simple, fragile, short,

* Since this paper was written I have had an opportunity of seeing Kützing's 'Synopsis Diatomearum,' and as his character is the best I have met with I subjoin it:—

"Desmidium. Corpuscula geminata in longam seriem conjuncta, itaque filum articulatum constituenta, tubulo communi filiformi mucoso inclusa."—In Linnæa, 1833, p. 613.

Ehrenberg's *Desmidium* differs widely from that of botanists. *D. Swartzii* is the only species common to both, in consequence of his having made triangular frustules one of the characters of his genus. His *Desmidium*, besides *D. Swartzii*, contains five species, *orbiculare*, *hexaceros*, *bifidum*, *aculeatum* and *apiculosum*, all found in England. But these, not being united into a filament, are distinguished from the genus as above described, just as *Frustulia*, *Ag.*, is from *Fragilaria*.

Ehrenberg defines his genus in the following terms:—

"Desmidium animal liberum, lorica simplici, univalvi, triquetra inclusum, sæpe cateniforme."—Die Infus. p. 140.